DETAILED ACTION

1. This action is responsive to the amendment filed on February 16, 2010.

2. Applicant's election of **Group I**, claims 1-25 without traverse in the reply filed on 02/16/2010 is acknowledged.

3. Claims 1-25 are pending. Claims 26-37 are withdrawn as non-elected invention from further consideration.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 recites the limitation greater than about or less than about in lines 6 and 7, which constitutes indefinite subject matter as per the metes and bounds of said phrase engenders indeterminacy in scope. It is noted that as the word "about" permits some tolerance (see *In* re *Ayers,* 69 *USPQ 109,* and *In re Erickson,* 145 USPQ 207), Claim 2-25 being depended in claim 1 are rejected as well.

6. Claims 9, 11-12,15, 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9, 11-12,15, 21-22 recite the limitation from about, which constitutes indefinite subject matter as per the metes and bounds of said phrase engenders indeterminacy in scope. It is noted that as the word "about" permits some tolerance

(see *In* re *Ayers,* 69 *USPQ 109,* and *In re Erickson,* 145 USPQ 207), Claim 2-25 being depended in claim 1 are rejected as well.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 9-11, 13-15, 18, 20-22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Salvatore J. Silvis (Pat. No. US 4,544,493).

Regarding claim 1, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16) comprising the steps of: feeding a neutralizing agent and an organic acid to a reaction zone of a vacuum reactor, wherein the organic acid is a sulfuric or sulfonic acid or a combination thereof to form a reaction mixture (Col. 19, lines 48-59); applying a vacuum pressure of greater than about 0 psia and less than about 15 psia (i.e. 125 torr is approximately 2.417 psia) to the reaction zone (Col. 14, lines 63-67, Example 1); heating the reaction zone via a heating jacket having a heat transfer medium, wherein the heat transfer medium is not cooling water (Col. 7, lines 15-17, Col. 9, lines 56-59); agitating the reaction mixture in the reaction zone (Col. 19, lines 61-62); reacting the neutralizing agent and the organic acid in the reaction zone to produce a salt (Col. 19, lines 59-61); reducing the water content of the reaction mixture by evaporation in the reaction zone (Abstract, lines 15-19); and discharging a surfactant product from the vacuum reactor (Col. 21, lines 20-27).

It is noted that under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

Regarding claims 2-3, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the neutralizing agent comprises sodium hydroxide (Col. 18, line 42, Example 5); and wherein the organic acid comprises a C_{12}-C_{18} alkyl sulfuric acid (Col. 21, lines 42-45).

Regarding claim 4, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the vacuum reactor is a thin film or wiped film reactor, and wherein the reaction mixture is capable of forming a film in the reaction zone (Col. 21, lines 12-19).

Regarding claim 9, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the vacuum drawn on the reaction zone will usually be such that the pressure in such zone is from 25 to 500 torr (i.e. 0.483 to 9.668 psia), preferably being 50 to 250 torr (0.967 to 4.834 psia), e.g., about 150 torr, as for making sodium lauryl sulfate (Col. 10, lines 47-50).

Regarding claims 10-11, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the heat transfer medium is a vapor or a liquid heat transfer media having a sufficient temperature (i.e. steam with about 212°F, Col. 7, lines 15-17, Col. 9, lines 56-59) and a sufficient pressure (i.e. 125 torr is approximately 2.417 psia) to the reaction zone (Col. 14, lines 63-67, Example 1).

Regarding claims 13-15, 18, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the heat transfer medium is a vapor or a liquid heat transfer media having a sufficient temperature (i.e. steam with about 212°F, Col. 7, lines 15-17, Col. 9, lines 56-59) and a sufficient pressure wherein the vacuum drawn on the reaction zone will usually be such that the pressure in such zone is from 25 to 500 torr (i.e. 0.483 to 9.668 psia), preferably being 50 to 250 torr (0.967 to 4.834 psia), e.g., about 150 torr, as for making sodium lauryl sulfate (Col. 10, lines 47-50).

Regarding claims 20-22, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the neutralized product from said reaction zone in the form of a pumpable aqueous medium containing a solids concentration of neutralized organic sulfate or sulfonate which is in the range of 50% to 85% by weight (Col. 20, lines 4-8).

Regarding claim 25, Silvis discloses a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the surfactant product is discharged from the vacuum reactor in a form comprising a liquid or slurry (Col. 22, line 23).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 5-8, 12, 19, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salvatore J. Silvis (Pat. No. US 4,544,493) as applied to claim 1 above, and further in view of Emery *et al.* (Pat. No. US 6,514,930 B2).

Regarding claims 5-7, Silvis discloses the features as discussed above. Silvis does not expressly teach the process, further comprising the step of feeding co-surfactants or other non-surfactant additives to the reaction zone, wherein the co-surfactants added to the reaction zone comprise a cationic surfactant, an anionic surfactant, a nonionic surfactant, an ampholytic surfactant, a zwitterionic surfactant, or a combination thereof and wherein the other non-surfactant additives added to the reaction zone comprise rheology modifiers, cosmetic agents, abrasives, or combinations thereof.

However, Emery *et al.* teach a process for the production of anionic detergent particles and detergent compositions containing them (Col. 1, lines 7-9) wherein the process for the production of detergent particles having a high level of anionic surfactant which involves in situ neutralization of an acid precursor of the anionic surfactant and drying of the surfactant thereby produced (Col. 1, lines 9-14). In addition to the acid precursor and neutralizing agent, other liquid and solid components may be fed to the drying region of the evaporator/drier, and/or the cooling zone if present (Col. 6, lines 1-5). For example, pre-neutralized surfactants, e.g. PAS, LAS and LES may be fed into the drying region as separate streams and/or as an admixture

with the neutralizing agent and/or acid precursor (Col. 6, lines 5-8). The particles can also contain one or more nonionic surfactants, in the context of a base powder with which the particles are admixed (Col. 6, lines 33-35). Similarly, organic materials, e.g. PEG and other polymer builder or soap can also be included in the particles (read on cosmetic agents) (Col. 6, lines 36-38). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the process for producing a high to super high active surfactant product by Silvis so as to include comprising the step of feeding co-surfactants or other non-surfactant additives to the reaction zone as taught by Emery *et al.* with reasonable expectation that would result in providing the option of reducing the level of detergent active material in a base powder which is especially advantageous where the base powder is produced by a spray drying process as a lower level of detergent active compound in the spray drying process permits a higher finished product output to be secured thus increasing overall production efficiency as taught by Emery *et al.* (Col. 7, lines 14-19).

Pertaining specifically to claim 8, Emery *et al.* teach a process for the production of detergent particles, the process comprising feeding an acid precursor of an anionic surfactant, a neutralizing agent and aluminosilicate detergency builder into a horizontal thin-film evaporator/drier (Col. 9, lines 57-61), one of ordinary skill in the art at the time of invention was made, would have expected that to reverse the adding ingredient wherein the neutralizing agent is fed to the reaction zone before the organic acid is fed to the reaction zone, since the changes in sequences of adding ingredients is held to be the case of ***prima facie*** obviousness. See *Ex parte Rubin*, 128 USPQ 440 (Bd. App. 1959).

Regarding claims 12, 19, Silvis teaches a process for producing a high to super high active surfactant product (Col. 1, lines 6-16), wherein the heat transfer medium is a vapor or a liquid heat transfer media having a sufficient temperature (i.e. steam with about 212°F, Col. 7, lines 15-17, Col. 9, lines 56-59) and a sufficient pressure (i.e. 125 torr is approximately 2.417 psia) to the reaction zone (Col. 14, lines 63-67, Example 1). Silvis does not expressly teach a process wherein the sufficient pressure is from about 14.5 psia or greater.

However, However, Emery *et al.* teach a process for the production of anionic detergent particles and detergent compositions containing them (Col. 1, lines 7-9), wherein the evaporator/drier is operated at atmospheric pressure (Col. 4, lines 48-49). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the process for producing a high to super high active surfactant product by Silvis so as to include the sufficient pressure is from about 14.5 psia or greater as taught by Emery *et al.* with reasonable expectation that would result in providing a higher finished product output to be secured thus increasing overall production efficiency as taught by Emery *et al.* (Col. 7, lines 18-19).

Regarding claims 23-24, Silvis discloses the features as discussed above. Silvis does not expressly teach the process further comprising the step of transferring the surfactant product to a mixer to incorporate at least one additive, wherein the additive added to the mixer comprises a colorant, a co-surfactant, an enzyme, a builder, a chelating agent, a clay-soil removal or anti-redeposition agent, a bleaching agent, a soil release polymer, a polymeric dispersing agent, a dye transfer inhibiting agent, a brightener, a foam suppressor, a fabric softener, a fragrance, a rheology modifier, a cosmetic agent, an abrasive, or a combination thereof.

However, Emery *et al.* teach a process for the production of anionic detergent particles and detergent compositions containing them (Col. 1, lines 7-9), wherein compositions can also contain, in addition to the detergent-active compound, a detergency builder and optionally bleaching components and other active ingredients to enhance performance and properties (Col. 7, lines 20-24). Detergent compositions can contain, in addition to the post-dosed detergent particles, one or more detergent-active compounds (surfactants) which can be chosen from soap and non-soap anionic, cationic, nonionic, amphoteric and zwitterionic detergent-active compounds, and mixtures thereof (Col. 7, lines 25-30). The preferred detergent-active compounds that can be used are soaps and synthetic non-soap anionic and nonionic compounds (Col. 7, lines 33-36). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the process for producing a high to super high active surfactant product by Silvis so as to include comprising the step of feeding co-surfactants or other non-surfactant additives to the reaction zone as taught by Emery *et al.* with reasonable expectation that would result in providing the option of reducing the level of detergent active material in a base powder which is especially advantageous where the base powder is produced by a spray drying process as a lower level of detergent active compound in the spray drying process permits a higher finished product output to be secured thus increasing overall production efficiency as taught by Emery *et al.* (Col. 7, lines 14-19).

11. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salvatore J. Silvis (Pat. No. US 4,544,493) as applied to claim 1 above, and further in view of Mueller *et al.* (Pat. No. US 5,152,932).

Regarding claims 16-17, Silvis discloses the features as discussed above. Silvis does not expressly teach the process, wherein the heat transfer medium is an oil or an electric heating element having a sufficient temperature and wherein the sufficient temperature of the oil or the electric heating element is about 150° F or greater.

However, Mueller *et al.* teach a process for making high active detergent particles, and to detergent particles made by this process (Col. 1, lines 11-13) wherein the process comprises the following steps: (a) reacting alkyl sulfuric and/or alkyl benzene sulfonic acids with concentrated sodium hydroxide solution (greater than or equal to about 62 weight % hydroxide) in a continuous neutralization system; (b) adding polyethylene glycol of molecular weight about 4,000 to 50,000 and/or certain ethoxylated nonionic surfactants during neutralization; and (c) forming detergent particles (Col. 1, lines 14-24), whereby the highly concentrated caustic solution melts at a high temperature so the caustic feed system must be carefully maintained at the required temperature to prevent "cold spots" (Col. 4, lines 39-43). A "cold spot" is any point in the feed system, pumps, metering systems, pipes or valves where the system has reached a temperature below the melting point of the caustic (155° F or 68.3°C. for 73% caustic, for example) (Col. 4, lines 43-47). Typically "cold spots" are avoided by hot water jackets, electrical tracing, and electrically heated enclosures (Col. 4, lines 49-51). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the process for producing a high to super high active surfactant product by Silvis so as to include the heat transfer medium is an oil or an electric heating element having a sufficient temperature and wherein the sufficient temperature of the oil or the electric heating element is about 150° F or greater as taught by Mueller *et al.* with reasonable expectation that would result in avoiding a "cold spot" that can cause crystallization of the caustic and blockage of the feed system as taught by Mueller *et al.* (Col. 4, lines 47-48).

Examiner Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bijan Ahvazi, Ph.D. whose telephone number is (571)270-3449. The examiner can normally be reached on M-F 8:0-5:0. (Off every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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